

FIG. 1

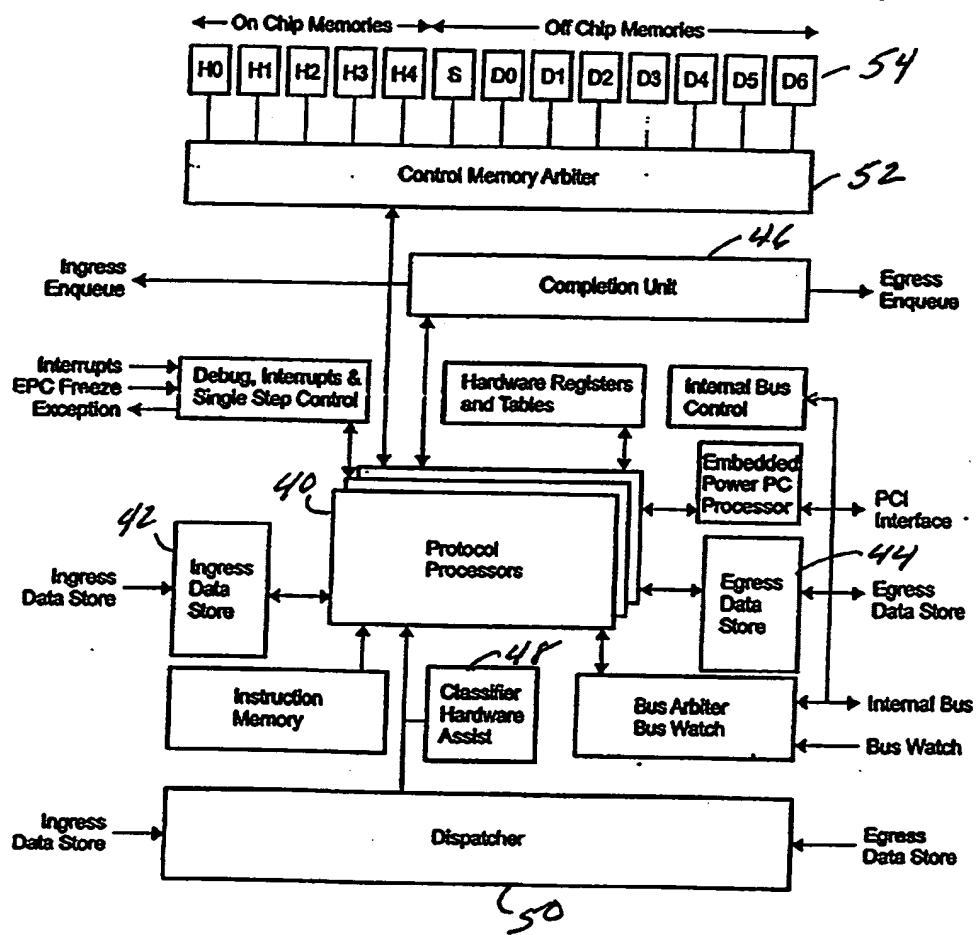


FIG. 2

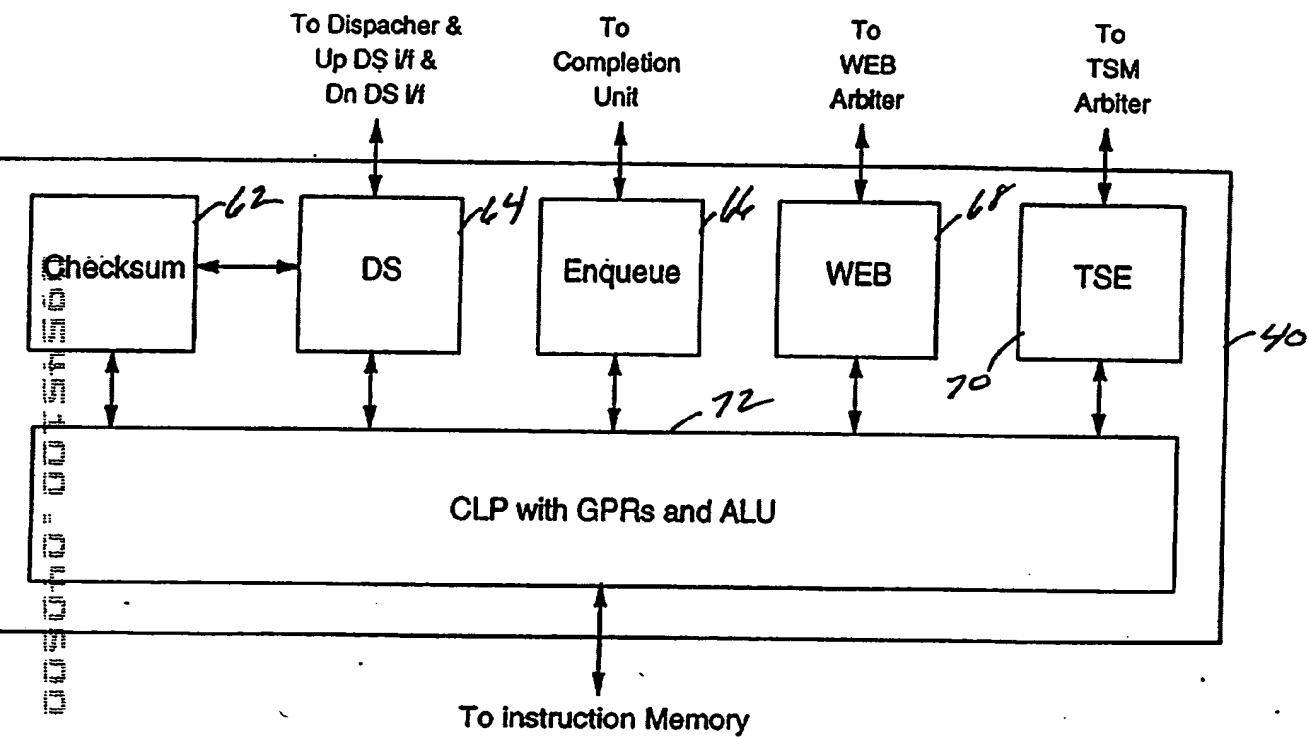


FIG. 3

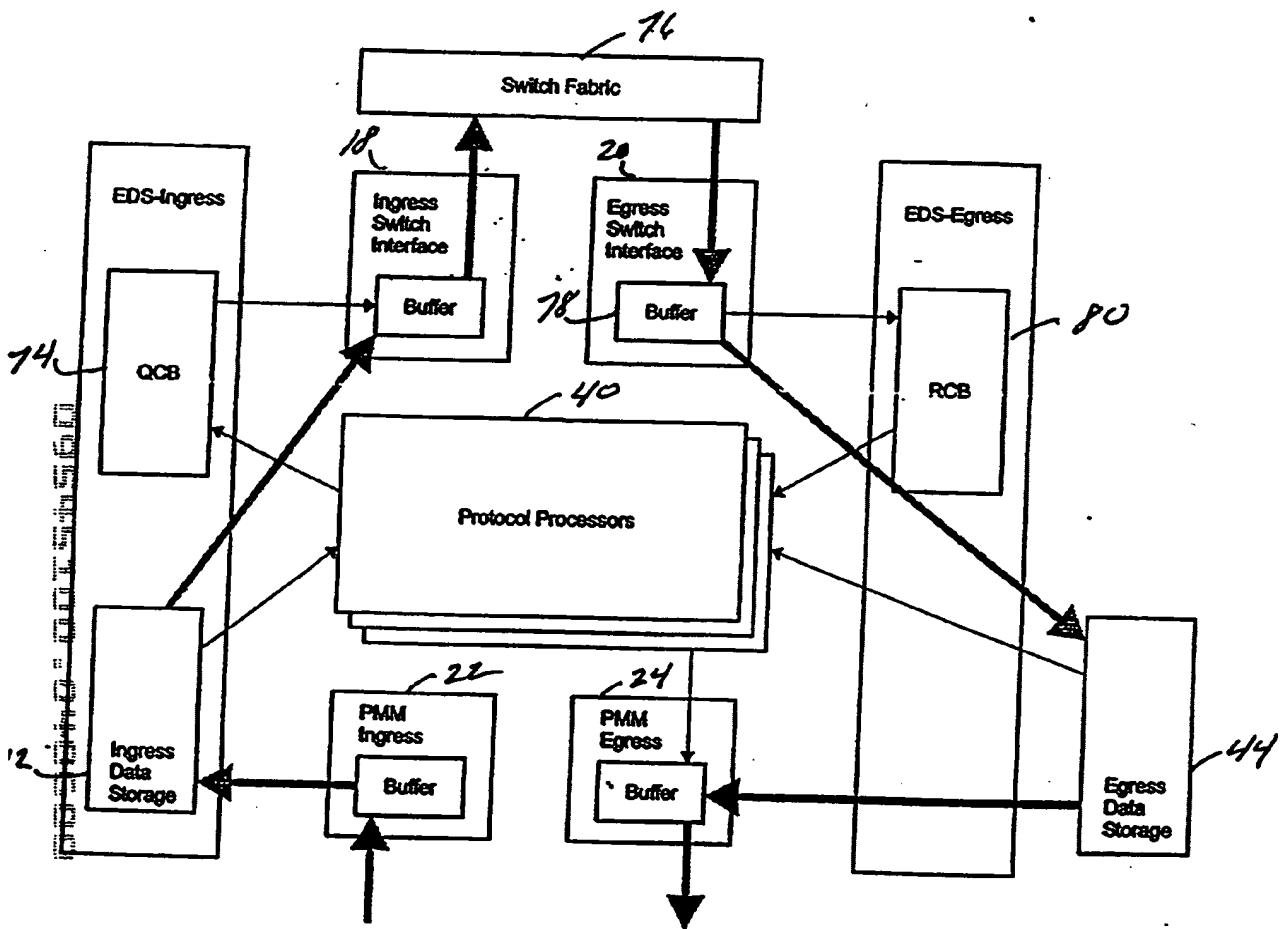


FIG. 4

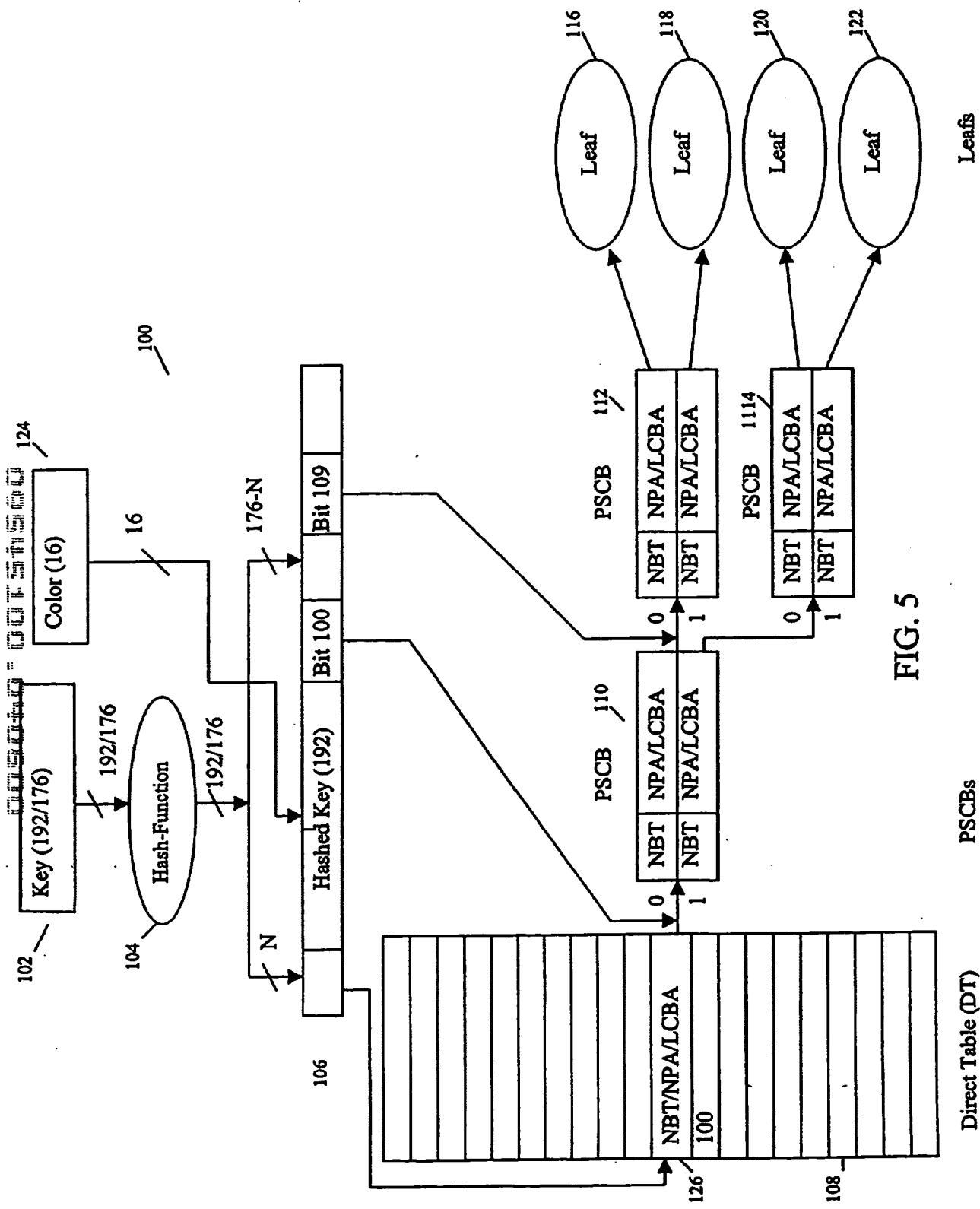
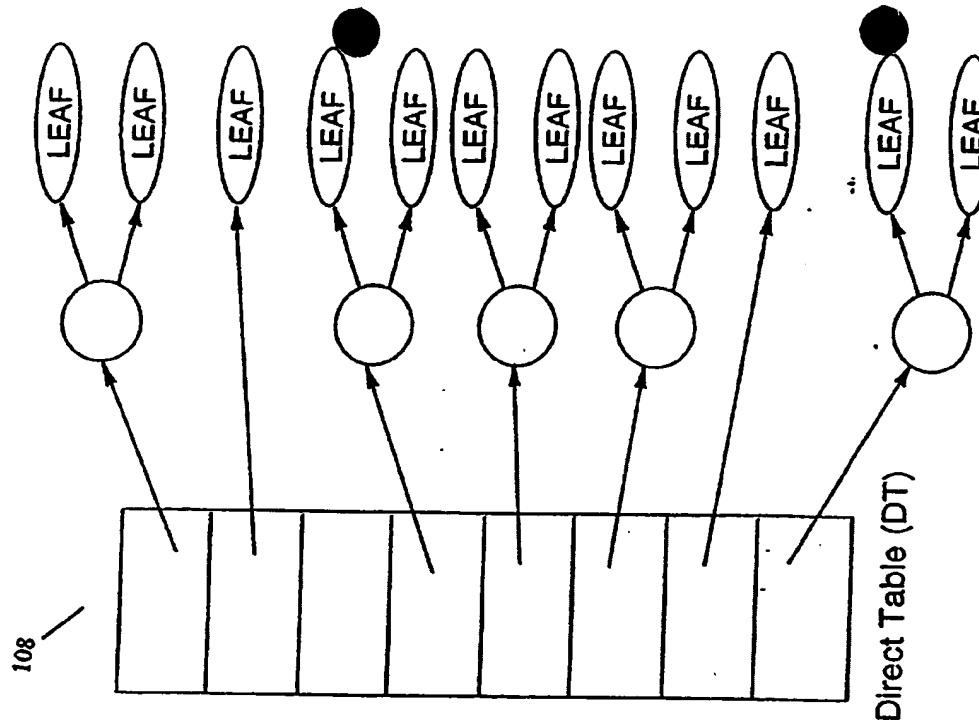


FIG. 5

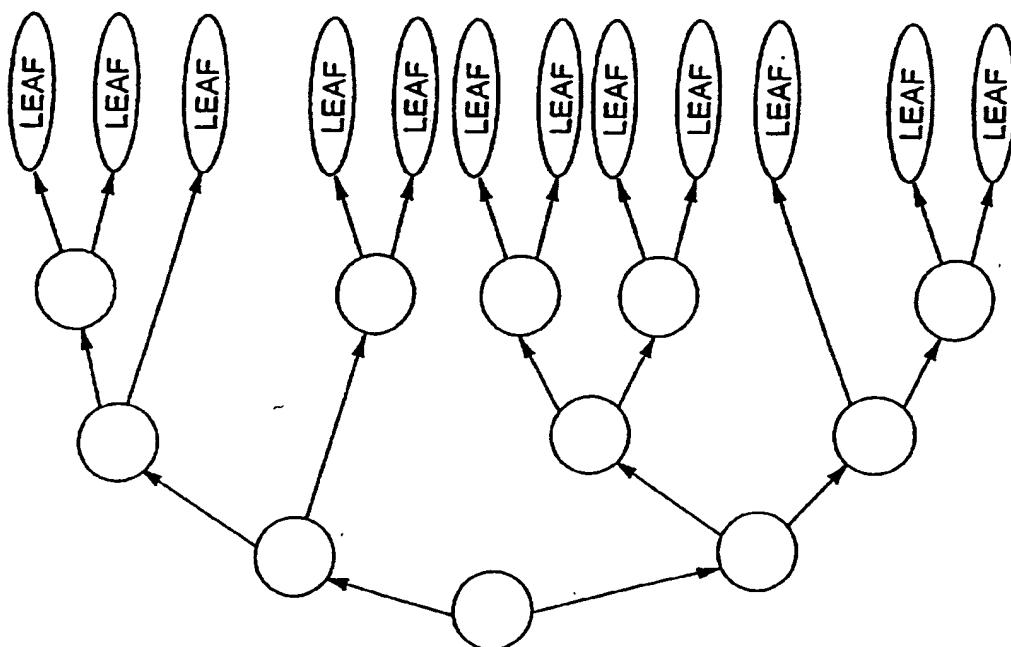
PSCBs

Direct Table (DT)

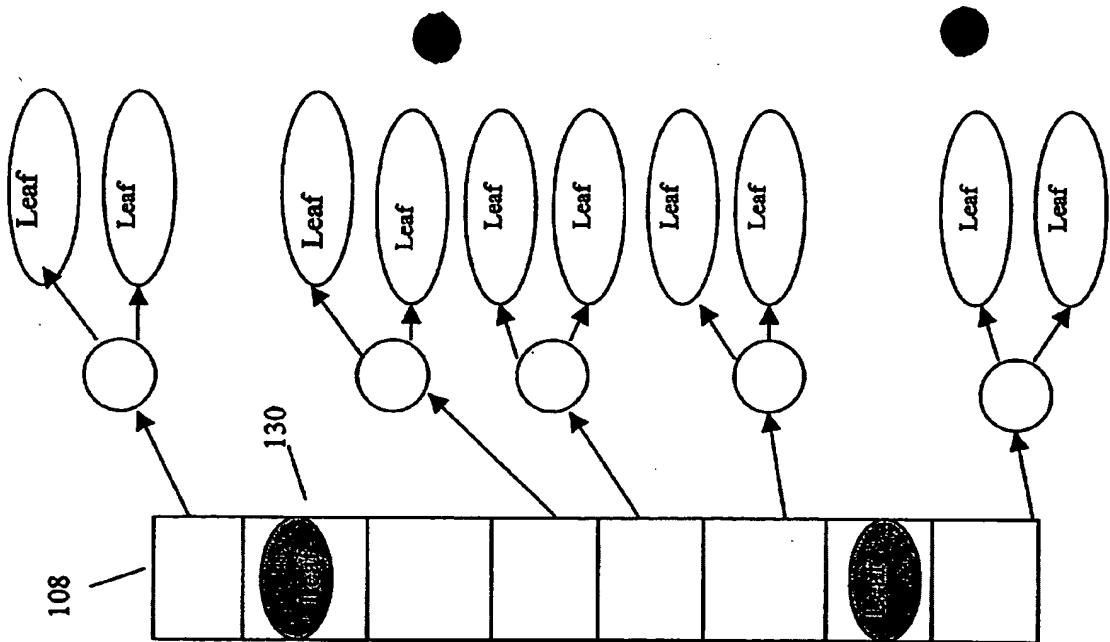


Datastructure with using a Direct Table

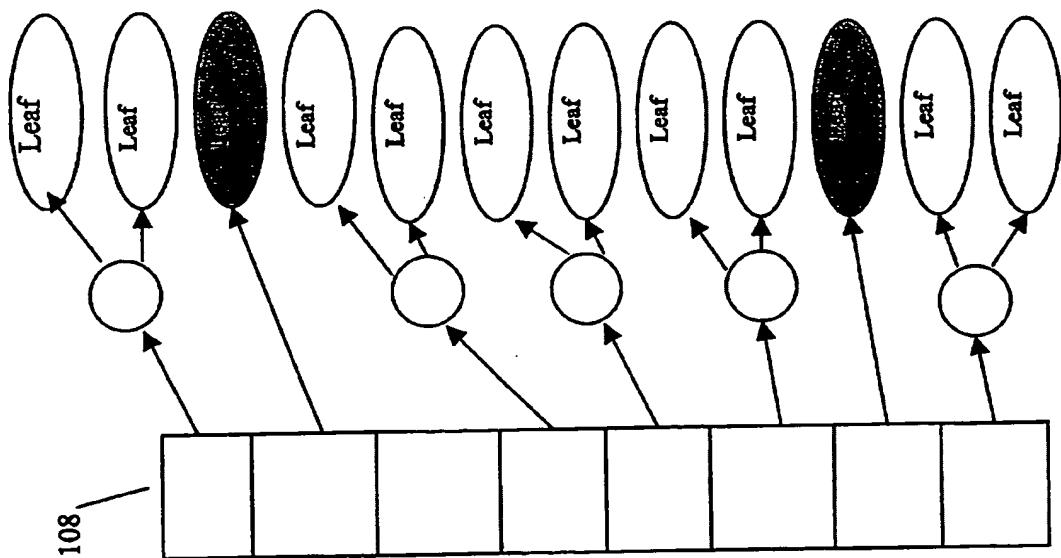
FIG. 6



Datastructure without using a Direct Table



Datastructure with Direct Leaves



Datastructure without Direct Leaves

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Input Key	IPSA (32 bits)	IPDA (32 bits)	SrcPort (16 bits)	DstPort (16 bits)	Prot (8 b)
Leaf-item 0	Value	Value	Min	Min	Value
Leaf-item 1	Mask	Mask	Max	Max	Mask

FIG. 8

Range1		Range2		One/TwoRanges	Continue
Offset	Minmax Length	Offset	Minmax Length		
Field0 8 bit	Field0 8 b	Field1 8 bit	Field1 8 b	1 bit	1 bit
				0: Range1 valid 1: Range1 and 2 valid	0: Stop at this compare 1: Continue with next compare

FIG. 9

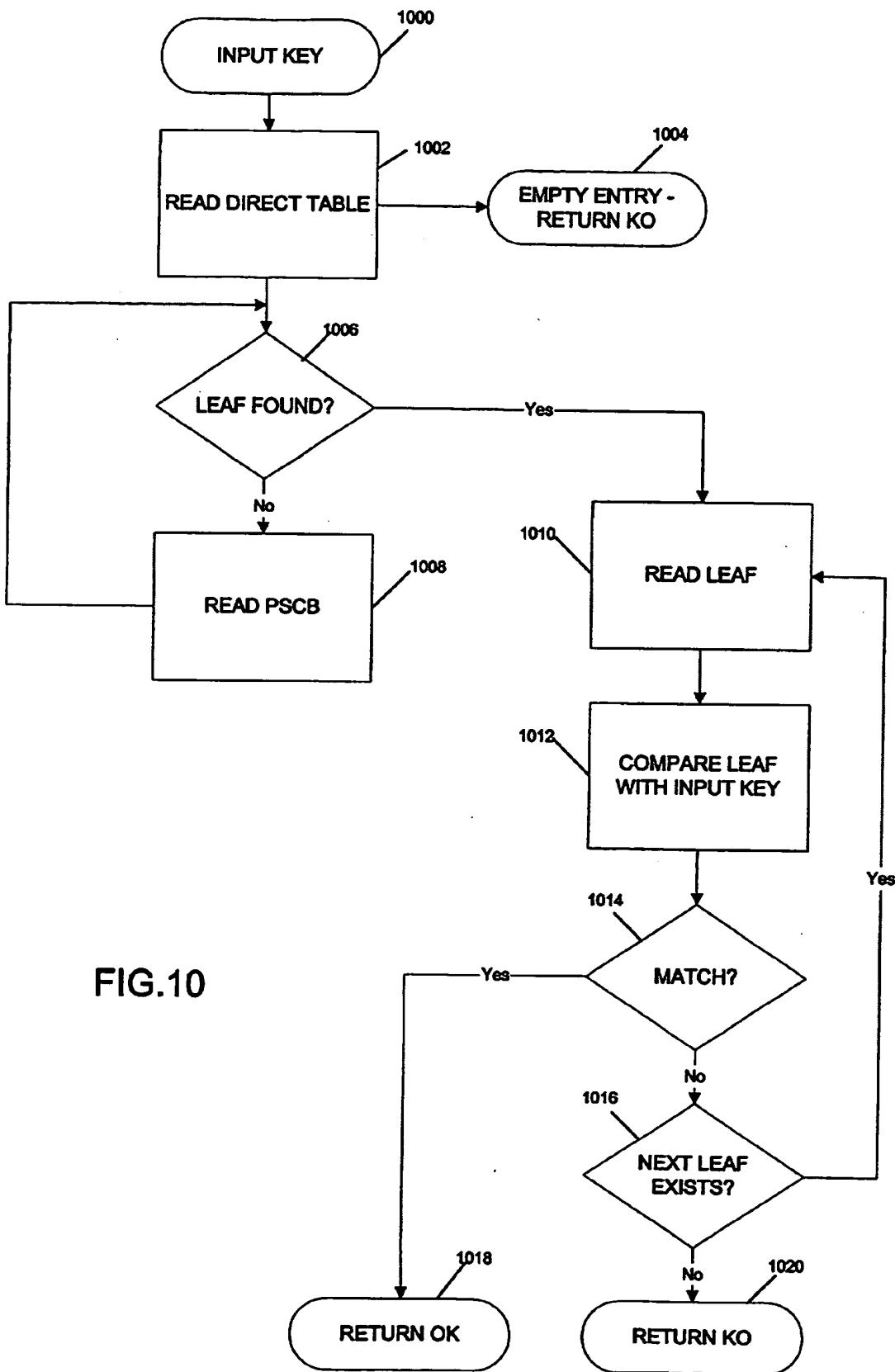


FIG.10

LUDefTable Tree Definition

Field	Size	Bits
CacheEntry	1	0
Tree_Type	2	2..1
hash-type	4	6..3
color_en	1	7
PIP2_max_size	5	12 .. 8
NPARope_en	1	13
NPASMT_en	1	14
ComplIndex_en	1	15
PSCB_fq_index	6	21 .. 16
PSCB_Height	1	22
Mask_Vector_En	1	23
ComplIndex	8	31..24
DT_base_addr	26	57 .. 32
DT_size	4	61 .. 58
DT_interleaf	2	63 .. 62
Leaf_fq_index	6	69 .. 64
Leaf_Width	2	71 .. 70
Leaf_Height	3	74 .. 72
DirectLeafEn	1	75

FIG. 11

Field	Size	Address in TSM where PSCB is located
NPA0	26	Next PSCB address: pointer to next PSCB in the tree for 0-part of PSCB
NBT0	8	Next bit to test for 0-part of PSCB
LCBA0	26	Leaf control block address: pointer to leaf for 0-part of PSCB
NPA1	26	Next PSCB address: pointer to next PSCB in the tree for 1-part of PSCB
NBT1	8	Next bit to test for 1-part of PSCB
LCBA1	26	Leaf control block address: pointer to leaf for 1-part of PSCB
Index	8	Index of this PSCB (physically stored in the previous PSCB)
PatBit	1	The value of HashedKey[Index], based on the value of the Index field in the PSCB register

FIG. 12

Field Name	Length	Description
NLASMT	4 bytes	Leaf chaining pointer to chain leaves for SMT; includes the shape of the chained leaf
comp_table_index	1 byte	Defines the index in the CompDefTable that defines the compare between Pattern1, Pattern2 and the HashedKey
Pattern1 and Pattern2	4-36 bytes	This field contains Pattern1 and Pattern2, bitwise interleaved; that is, bit 0 of the field contains bit 0 of Pattern1, bit 1 contains bit 0 of Pattern2; alternately, the even bits represent Pattern1 and the odd bits represent Pattern2
UserData	Variable	The contents of this field is under complete picocode control; the UserData field can include one or more counters

FIG. 13

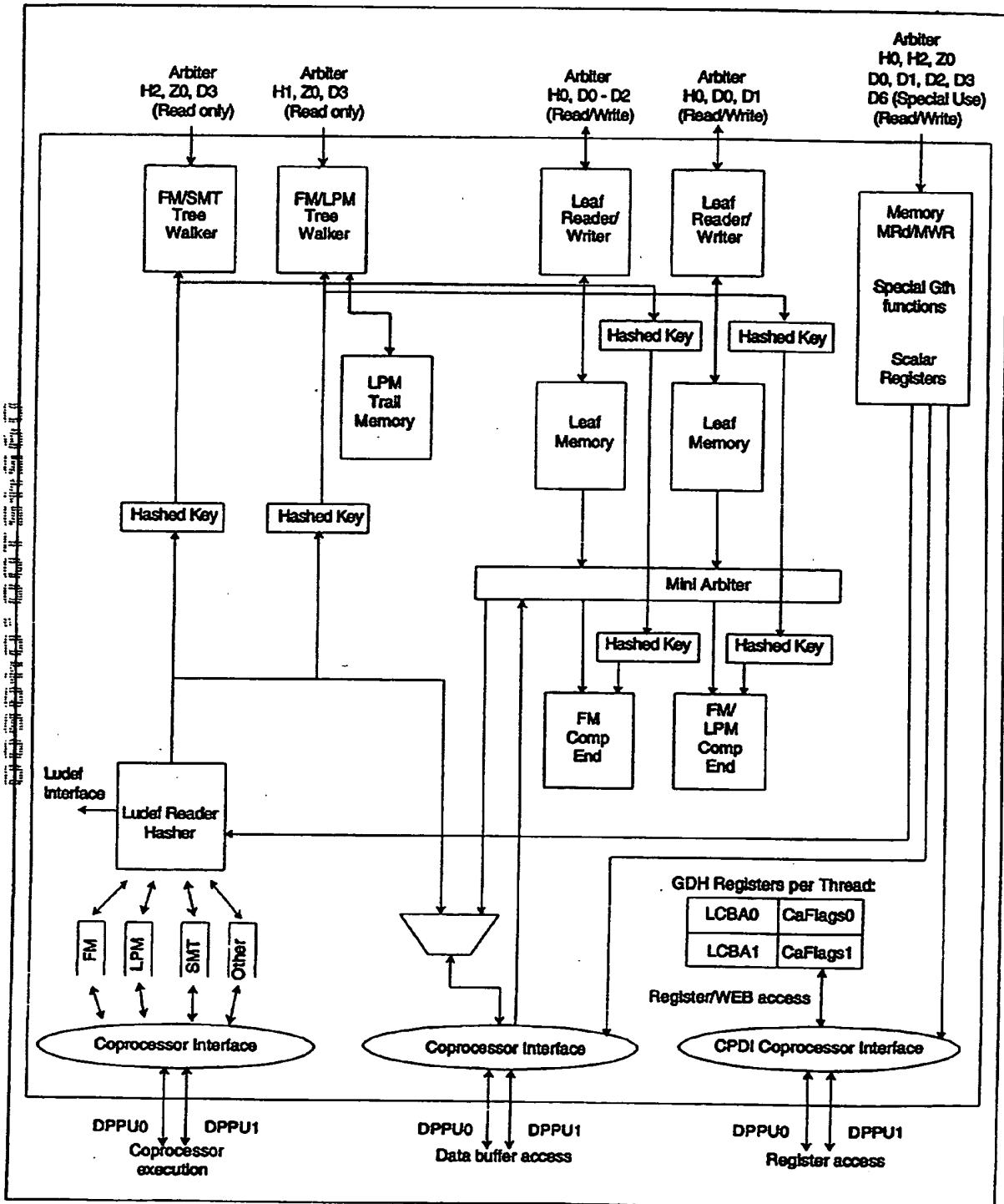


FIG. 14